

REMARKS**A. Regarding the Amendments to the Claims**

Previously pending claims 54, 55 and 57-70 have been canceled, and new claims 71-83 have been added.

Claim 56 has been amended inserting the phrase "according to claim 71" after the word "compound" in the first line.

Independent claim 71 is based on previously submitted independent claim 54 and more clearly defines the invention.

New claims 72-78 parallel the substance of original claims 57-62 respectively, new claim 79 parallels the substance of original claims 29 and 30, new claim 80 parallels original claim 64 and new claims 81-83 parallel claims 66 and 67.

Applicant submits that the amendments merely clarify features already inherent in the disclosed invention of the claimed subject matter. Because the new claims do not alter the substance of the original invention, they do not require any additional searching by the Examiner. Finally, the amendments place the application in better form for appeal by emphasizing the distinctive elements of the invention and by addressing the Examiner's objections and rejections.

B. Objection to the claims

The Examiner objects to claim 54 because the terms "haloalkoxy", "carboxamido", "pseudohalo", "aralkenyl", "heterocyclalkenyl" and "heteroaralkoxy" are misspelled. Applicant has cancelled claim 54 consequently the Examiner's rejections are moot and Applicant respectfully requests that this rejection be removed.

The Examiner objects to claim 56 because it recites "HC" which should be changed to "HCl" and the claim does not end in a period. Claim 56 has been amended as requested by the Examiner.

The Examiner objects to claim 58 suggesting insertion of the word "which" before the word "moiety" on line 2. Applicant has cancelled claim 58 consequently the Examiner's rejections are moot and Applicant respectfully requests that this rejection be removed.

The Examiner objects to claim 60 suggesting insertion of a comma after the term "RNA" on line 3. Applicant has cancelled claim 60 consequently the Examiner's rejections are moot and Applicant respectfully requests that this rejection be removed.

The Examiner objects to claim 70 suggesting insertion of a comma after the definition of A. Applicant has cancelled claim 70 consequently the Examiner's rejections are moot and Applicant respectfully requests that this rejection be removed.

PATENTABILITY ARGUMENTS

A. Response to Rejections under 35 U.S.C. §112 second paragraph

The Examiner has rejected claims 54, 55 and 57-70 under 35 U.S.C. 112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. More particularly the Examiner states that claim 54 is indefinite because it recites what appears to be an alternative definition but the first alternative definition is not present in the claim. Correspondingly the Examiner has properly rejected dependent claims 55, 57-70. Applicant has cancelled claim 54, 55 and 57-70 consequently the Examiner's rejections are moot and Applicant respectfully requests that this rejection be removed.

The Examiner rejects claim 63 stating that the claim is unclear because it recites a immobilization of a biological molecule on a surface having an amino reactive moiety wherein the biological molecule is conjugated having an amino reactive moiety. The Examiner states that it is not clear how these amino active moieties would interact to immobilize the biological molecule to the surface. Applicant has cancelled claim 63 consequently the Examiner's rejection is moot and Applicant respectfully requests that this rejection be removed.

Finally the Examiner states that claim 70 is indefinite because it is dependent from cancelled claim 1. Applicant has cancelled claim 70 consequently the Examiner's rejections are moot and Applicant respectfully requests that this rejection be removed.

The Examiner indicates that the effective filing date of claims 54, 55 and 57-70 is deemed to be March 2001, the filing date of the instant under 35 U.S.C. §119(e). Applicant has cancelled claims 54, 55 and 57-70 consequently the effective filing date should be the date the provisional patent application was filed, 22 March 2000.

B. Response to Rejections under 35 U.S.C. §102(b)

The Examiner rejects claims 54, 55, 57, 59, 63 and 70 under 35 U.S.C. 102(b) as being anticipated by the WO Patent Application 93/14779, "779". More specifically the Examiner states that 779 teaches a compound which anticipates Applicant's compound of Formula I in which B is a carboxyl group; R is a cycloalkylene group combined with a $C(R^{10})_2$ group where R^{10} is hydrogen; A is $-NH(C=O)-$; and X is trifluoroacetate. Applicant has cancelled claims 54, 55, 57, 59, 63 and 70 rendering the rejection moot and Applicant respectfully requests that the Examiner remove this rejection.

Finally the Examiner rejects claims 54, 57-61, 64 and 69 under 35 U.S.C. 102(b) as being anticipated by Scott et al. (Bioorg. Med. Chem. Lett., Vol. 6 pages 1491-1496). More specifically the Examiner states that Scott et al. teach a compound which anticipates Applicant's Formula I in which B is a succinimidyl ester; R is a combination

of C(L), a N(R¹⁰), and two C(R¹⁰)₂ groups; A is -NHNH(C=O)- and X is trifluoroacetate. Applicant has cancelled claims 54, 57-61, 64 and 69 rendering the rejection moot and Applicant respectfully requests that the Examiner remove this rejection.

C. Response to Rejections under 35 U.S.C. § 103(a)

The Examiner rejects claims 54, 55, 57, 59, 63 and 70 under 35 U.S.C. 103(a) as being obvious over 779 as applied above and in view of Abrahams et al. (U.S. Patent No.: 5,679,778), "778" or Ashkenazi et al. (U.S. Patent No.: 5,329,028, "028". More specifically 779 differs from Applicant's elected species in that the compound comprises a trifluoroacetate salt rather than a hydrochloride salt. Both 778 and 028 disclose hydrochloride salts to be useful salt forms for hydrazide-containing linkers. Applicant has cancelled claims 54, 55, 57, 59, 63 and 70 rendering the rejection moot and Applicant respectfully requests that the Examiner remove this rejection.

The Examiner then rejects claims 59-69 under 35 U.S.C. 103(a) as being obvious over Berninger et al. (U.S. Patent No.: 5,856,571) "571". More specifically 571 teach using hydrazide-containing linkers having structures to cross link components A and B. Component A comprises a group which is reactive with the functional group X of the linkers, and X can be a carboxylic acid group or a reactive carboxylic acid group. Component A can be a solid support, a protein, or biotin derivatized to present an amine group for coupling. Component B comprises a carbonyl moiety, such as an aldehyde or ketone moiety, which the hydrazide group of the linker reacts with and forms a stable semicarbazone linkage. Component B can be an antibody, DNA, RNA or a solid support. However, 571 do not exemplify a linker having a functional group X which is an amine reactive group. To this the Examiner states that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to form a hydrazide-containing linker according to 571 in which the functional group X is an amine reactive group. Applicant has cancelled claims 59-69 rendering the rejection moot and Applicant respectfully requests that the Examiner remove this rejection.


The Examiner finally rejects claims 54, 57-61, 64 and 69 under 35 U.S.C. 103(a) as being obvious over Scott et al. (Bioorg. Med. Chem Lett., Vol 6 pages 1491-1496) as applied above and in view of Abrahams et al. (U.S. Patent No.: 5,679,778) or Ashkenazi et al. (U.S. Patent No.: 5,329,028). More specifically the compound of Scott et al. is a trifluoroacetate salt rather than a hydrochloride salt. Both 778 and 028 disclose hydrochloride salts to be useful salt forms for hydrazide-containing linkers. Applicant has cancelled claims 54, 57-61, 64 and 69 rendering the rejection moot and Applicant respectfully requests that the Examiner remove this rejection.

CONCLUSION

In view of the above, Applicant respectfully requests that the Examiner issue an allowance of the claims.

Respectfully submitted,

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